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EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,780

Applicant(s)

MOORE ET AL.

Examiner

Elizabeth Quan

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Referring to claims 1 and 24, while the specification quantifies "very high axial strength" via the ability to withstand pressures, it is unclear what the units of pressure "x g" is. Therefore, the characterization "very high axial strength" is rendered indefinite.

5. Referring to claim 2, it is unclear what the unit "x g" is. There is inconsistency between the specification and the claim. The specification refers "x g" as units of pressure, and the claim refers "x g" as units of force. For the purposes of examination, "x g" has been interpreted gram-force.

6. Referring to claim 14, it is highly unclear how the side walls of the transverse axis are higher in elevation than the side walls along the first transverse axis. Are the side walls of the second and first transverse axes being compared? If so, how is it possible? How are the side walls along an axis? What is the reference point for these axes? Is the Applicant attempting to claim that the cross-section of the container is not a sphere or a right cylinder?

7. Referring to claim 20, it is unclear how any physical matter does not have any corners or edges. Applicant's containers in the provided drawings appear to have corner and edges whether they are sharply defined or not.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,147,055 to Samson et al.

Referring to claims 1, 3, 4, Samson et al. disclose a very high axial strength container (10) and removable non-threaded and very high axial strength lid (28) (see FIGS. 1-4). The container (10) has a bottom wall and one or more substantially vertical sidewalls cooperating to define an interior chamber of a certain cross-sectional area (see FIGS. 1-4). The container (10) has a top opening with a first transverse axis and a second transverse axis substantially perpendicular to the first transverse axis (see FIGS. 1-4). The container (10) has a top opening with a first transverse axis and a second transverse axis substantially perpendicular to the first transverse axis (see FIGS. 1-4). The first transverse axis or the diameter of the container (10), and the second transverse axis or the height of the container (10) is at least 9 cm long (see FIGS. 1-4; COL. 4, lines 60-64). The top opening defines a top opening open area, which appears to be at least about 90% of the interior chamber cross-sectional area (see FIGS. 1-4). The lid (28) has an exterior

and interior surface (see FIGS. 1-4). The lid (28) is sized and dimensioned to cover the top opening to seal the interior chamber (see FIGS. 1-4). The lid (28) has a handle (50) and hinged clip (46) (see FIGS. 1-4; COL. 3, lines 41-68; COL. 4, lines 1-16).

It is noted that "centrifuge labware device" in the preamble of the claim is a statement of intended use and affords no patentable weight.

Therefore, Samson et al. includes all the limitations in claims 1, 3, and 4.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-5, 15, 16, 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara.

Referring to claims 1-15, 16, 20, 23, Kelly et al. disclose a centrifuge labware device (10) comprising a very high axial strength container (14) and removable non-

threaded and very high axial strength lid (24) (see FIGS. 1, 6, and 7; COL. 4, lines 55-57; COL. 5, lines 1-4 and 18-21). The container (14) has a bottom wall and one or more substantially vertical sidewalls cooperating to define an interior chamber of a certain cross-sectional area (see FIGS. 1, 6, and 7; COL. 4, lines 55-57). The container (14) has a top opening with a first transverse axis and a second transverse axis substantially perpendicular to the first transverse axis (see FIGS. 1, 6, and 7). The interior surface of the bottom wall is bowl-shaped, and the transition of the bottom wall to the one or more side walls is smooth and defines no corners or edges (see FIGS. 1, 6, and 7). The container (14) is disposed within a centrifuge (12) (see FIGS. 1, 6, and 7). The first transverse axis or the diameter of the centrifuge (12) is approximately seven inches or 17.78 centimeters, and the second transverse axis or the height of the centrifuge (12) is approximately five inches or 12.70 centimeters (see COL. 5, lines 21-24). The top opening defines a top opening open area, which appears to be at least about 90% of the interior chamber (14) cross-sectional area (see FIGS. 1, 6, and 7). The lid (24) has an exterior and interior surface (see FIG. 1). The lid (24) is sized and dimensioned to cover the top opening to seal the interior chamber (see FIG. 1; COL. 5, lines 1 and 2). The interior surface of the lid (24) has a circumferential lid flange (see FIG. 1). The top opening of the container (14) is defined by a circumferential rim, which matches the circumferential horizontal lid flange (see FIG. 1; COL. 5, lines 1-4). A liner (40), which is sized and dimensioned to closely fit against the walls of the container (14), is disposed within the container (14) (see FIG. 1; COL. 4, lines 55-67; COL. 5, lines 1-13). The liner (40) has one or more vertical side walls (54a-d), which terminate in an outwardly directed

Art Unit: 1743

circumferential horizontal liner flange (56), which is disposed between the circumferential rim of the container (14) and circumferential horizontal lid flange (see FIG. 1; COL. 5, lines 25-35).

It is noted that “very high axial strength” has been interpreted as inherent to the container (14) and lid (24) since “very high axial strength” is a relative characterization of the ability of the elements (14) and (24) to maintain integrity and structure with the application of pressure. Furthermore, “very high axial strength” has been attributed to both the container (14) and lid (24) since they can withstand speeds of rotations approximately between 1000 rpm and 5000 rpm (see COL. 5, lines 18-21).

Referring to claim 2, it appears the container (14) has sufficient strength to withstand the force of 5,000 gram-force, which is 11.02 pounds of force, applied to the interior side of the bottom wall. It appears the lid (24) has sufficient strength to withstand the force of 5,000 gram-force, which is 11.02 pounds of force, applied to the exterior side of the lid (24).

Referring to claim 3, Applicant has not specified where the carrying handle is. A cover (60) for covering the liner (40) has a carrying handle (64) (see FIGS. 1, 6, and 7).

Referring to claim 4, the lid (24) has a hinged clip (30) for securing the lid (24) to the container (14) (see FIG. 1; COL. 5, lines 1-13). According to Merriam-Webster Collegiate Dictionary, hinge is defined as “a jointed or flexible device on which a door, lid, or other swinging part turns.” Element (30) is flexible and slightly swings in order for it to performing latching with and unlatching from element (34) of the container (see COL. 5, lines 1-13). According to Merriam-Webster Collegiate Dictionary, clip is

Art Unit: 1743

defined as “any of various devices that grip, clasp, or hook.” Element (30) grips, clasps, or hooks onto element (34) of the container.

Referring to claim 5, the hinged clip (30) is recessed within one or more grooves disposed in the exterior surface of the lid (24) (see FIG. 1). According to Merriam-Webster Collegiate Dictionary, exterior is defined as “being on an outside surface or situated on the outside.” The term “exterior surface” has been interpreted as the outer layer of the lid. The definition affords the reasonably broad interpretation of the clip not being embedded within the lid in which the clip would be disposed in the interior surface of the lid.

Kelley et al. do not explicitly disclose container (14) with the first and second transverse axis at least in 9 cm in length. However, Hara discloses a container (15) having at least a diameter of 101 mm or 10.1 cm, depending upon from what walls of the container (15) the diameter is taken (see FIGS. 4-7; COL. 5, lines 59-63). The container (15) has a depth of 100 mm or 10.0 cm (see FIGS. 4-7; COL. 5, lines 59-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the container of Kelley et al. with the first and second transverse axis at least 9 cm as in Hara to provide sufficient room for a larger bottle of sample or larger number of centrifuge tubes while fitting into a conventional centrifuge.

Kelley et al. do not address the strength of the container (14). However, Hara discloses a very high axial strength container (15) made of stainless steel and reinforced with ribs to carry a heavy load while undergoing a high rotational speed (see COL. 5, lines 42-66; COL. 6, lines 1 and 2). Hara does not address the cover; however, it would

have been obvious to provide a cover with the same very high axial strength to prevent damage to the cover secured to a container withstanding a high amount of centrifugal force. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the container and lid of Kelley et al. in view of Hara such that they can withstand a high amount of centrifugal force from the sample and high rotational speed.

13. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al.

Referring to claim 6, Kelley et al. in view of Hara do not disclose a pouring spout with a removable self-sealing pouring spout cover. However, Schmeisser et al. disclose a pouring spout (14) with a self-sealing pouring spout cover (42) (see FIGS. 3 and 4; COL. 1, lines 5-8). Schrenk et al. also disclos a pouring spout (24) with a self-sealing pouring spout cover (24) (see FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the labware of Kelley et al. in view of Hara to include a pouring spout and self-sealing pouring spout cover as in Schmeisser et al. or Schrenk et al. to effectively seal the contents in a centrifuge container from leakage and contamination to or from the environment.

Referring to claim 7, it is noted that Applicant has not defined the edge or sharpness of the edge of the pouring spout. Examiner has interpreted sharp edge as steep slope. Since Schmeisser et al. and Schrenk et al. have a spout with vertical sidewalls, it would be considered to have sharp edges.

Art Unit: 1743

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 3,556,303 to Diebold et al. or U.S. Patent No. 6,312,648 to Lenardo et al.

Referring to claim 7, Kelley et al. in view of Hara and Schmeisser et al. or Schrenk et al. do not disclose a pouring spout with a sharp forward edge. However, Diebold et al. and Lenardo et al. disclose a pouring spout with a sharp forward edge to aid in pouring or discharging fluids to a targeted location (see FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara and Schmeisser et al. or Schrenk et al. to provide a pouring spout with a sharp forward edge as in Diebold et al. or Lenardo et al. to aid in pouring or discharging fluids to a targeted location.

15. Claims 8, 10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al.

Referring to claims 8, 10, 12, 13, Kelley et al. disclose a top opening of the container defined by a circumferential rim matching the circumferential horizontal lid flange and a gasket (28), which defines a tortuous path, disposed between the circumferential rim and circumferential horizontal lid flange (see FIGS. 1, 6, and 7). According to Merriam-Webster Collegiate Dictionary, tortuous is characterized by repeated twists, bends, or turns, and a circular shaped gasket fulfills this definition.

Kelley et al. appears to show the interior surface of the lid with a 3 mm wide circumferential horizontal lid flange by superficial measurements of the drawings.

Referring to claim 14, Examiner has interpreted the claim as the diameter and the height of the sidewalls of the container have different dimensions. It appears the container (14) of Kelley et al. fulfills these dimensions. Hara shows a container that does not have a circular cross-section, and therefore, the cross-section of the container will be different with different diameters.

However, Kelley et al. do not explicitly disclose a 3 mm horizontal lid flange. Neither Kelley et al. in view of Hara disclose the dimensions of the circumferential horizontal lid flange or the circumferential vertical lid flange disposed interior to the circumferential horizontal lid flange and downwardly below the horizontal lid flange by a distance of at least 3 mm. Foster et al. disclose a lid with a circumferential horizontal lid flange with a width of $h - (c + l) = 4.6736 \text{ mm to } 4.8768 \text{ mm}$ (see FIGS. 1-3 and 5).

$$c = 0.070 \text{ to } 0.074$$

$$l = 0.418 \text{ to } 0.422$$

$$h = 0.675 \text{ } \pm 0.005 = 0.670 \text{ to } 0.680$$

$$c + l = 0.488 \text{ to } 0.496$$

$$h - (c + l) = 0.184 \text{ to } 0.192 \text{ or } 4.6736 \text{ mm to } 4.8768 \text{ mm}$$

Foster et al. disclose the circumferential vertical lid flange with a length of $j - (e + i) = 4.318 \text{ mm}$ (see FIGS. 1-3 and 5).

$$e = 0.055 \text{ to } 0.060$$

$$i = 0.075 \text{ to } 0.080$$

Art Unit: 1743

$$“j” = 0.300” \text{ to } 0.310”$$

$$“e” + “i” = 0.130” \text{ to } 0.140”$$

$$“j” - (“e” + “i”) = 0.170” \text{ or } 4.318 \text{ mm}$$

The circumferential vertical lid flange is disposed interior to the circumferential horizontal lid flange (see FIG. 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara to provide a circumferential vertical lid flange of at least about 3 mm disposed interior to the circumferential horizontal lid flange of at least about 3 mm as in Foster et al. to maintain seal integrity.

16. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al. and U.S. Patent No. 5,316,731 to Schrenk et al.

Referring to claim 9, neither Kelley et al. nor Hara nor Foster et al. disclose a pouring spout with a downwardly directed portion which extends downwardly below the circumferential horizontal lid flange. However, Schrenk et al. disclose a pouring spout (24) with a downwardly directed portion leading into the self-sealing center (25) and extending downwardly below the circumferential horizontal lid flange situated on the side walls or shoulders of container (10) (see FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara and Foster et al. to provide a pouring spout with a downwardly directed portion which extends downwardly below the

circumferential horizontal lid flange to maintain seal integrity and control dispensation of liquid to a targeted location.

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al. and U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 6,149,570 to Lowe et al.

Referring to claim 11, Kelley et al. in view of Hara and Foster et al. and Schrenk et al. do not address the how spaced-apart the vertical lid flange is from the circumferential rim of the container. However, Lowe et al. disclose that the vertical lid flange is spaced apart from the circumferential rim of the container by 0.02 inches or about 0.635 mm, which is about 1 mm, to allow easy engagement of the lid to the container while preventing the lid from tilting or being removed from the container. Furthermore, it has been held that the claimed device is not patentably distinct from the prior art device if the only difference between the prior art and the claims was a recitation of relative dimension of the claimed device and a device having the claimed relative dimension would not perform differently than the prior art device (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara, Foster et al., and Schrenk et al. to provide the clearance of about 1 mm between the vertical lid flange and circumferential rim for easy engagement of lid with container and prevention of the lid from tilting or being removed from the container.

Art Unit: 1743

18. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 4,119,407 to Goldstein et al.

Referring to claims 17-19, Kelley et al. in view of Hara do not disclose support slots on the interior surface of the side walls of the containers. However, Goldstein et al. disclose at least a pair of first structural support slots spaced apart from the second structural support slots within the interior surface of the side walls of the containers (see FIG. 2). Goldstein et al. further disclose a planar horizontal support member disposed within the structural support slots to create separate compartments for containing different materials or performing different processes (see FIG. 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara to provide slots and support members as in Goldstein et al. to create separate compartments for storing different materials or performing different processes.

19. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 3,820,546 to Chittenden et al.

Referring to claim 21, neither Kelley et al. nor Hara disclose an air vent filter disposed in the lid. However, Chittenden et al. disclose an air vent filter (60) disposed in the lid (20) to filter bacteria from the air entering the container (see FIGS. 1 and 4; ABSTRACT). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of

Art Unit: 1743

Hara to provide an air vent filter in the lid as in Chittenden et al. to filter bacteria from the air entering the container.

20. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and WO 02/02735 to Lee.

Referring to claim 22, neither Kelley et al. nor Hara disclose whether the container is transparent. However, Lee discloses the side walls of the centrifuge tube transparent to allow viewing of the contents within the tube (see ABSTRACT).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara to provide a transparent container as in Lee to allow viewing of the contents of the container.

21. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 5,224,515 to Foster et al.

Referring to claim 24, Kelly et al. disclose a centrifuge labware device (10) comprising a very high axial strength container (14) and removable non-threaded and very high axial strength lid (24) (see FIGS. 1, 6, and 7; COL. 4, lines 55-57; COL. 5, lines 1-4 and 18-21). The container (14) has a bottom wall and one or more substantially vertical sidewalls cooperating to define an interior chamber of a certain cross-sectional area (see FIGS. 1, 6, and 7; COL. 4, lines 55-57). The container (14) has a top opening with a first transverse axis and a second transverse axis substantially perpendicular to the

first transverse axis (see FIGS. 1, 6, and 7). The interior surface of the bottom wall is bowl-shaped, and the transition of the bottom wall to the one or more side walls is smooth and defines no corners or edges (see FIGS. 1, 6, and 7). The container (14) is disposed within a centrifuge (12) (see FIGS. 1, 6, and 7). The first transverse axis or the diameter of the centrifuge (12) is approximately seven inches or 17.78 centimeters, and the second transverse axis or the height of the centrifuge (12) is approximately five inches or 12.70 centimeters (see COL. 5, lines 21-24). The top opening defines a top opening open area, which appears to be at least about 90% of the interior chamber (14) cross-sectional area (see FIGS. 1, 6, and 7). The lid (24) has an exterior and interior surface (see FIG. 1). The lid (24) is sized and dimensioned to cover the top opening to seal the interior chamber (see FIG. 1; COL. 5, lines 1 and 2). The interior surface of the lid (24) has a circumferential lid flange (see FIG. 1). The top opening of the container (14) is defined by a circumferential rim, which matches the circumferential horizontal lid flange (see FIG. 1; COL. 5, lines 1-4). A gasket (28) is disposed between the circumferential rim and the horizontal lid flange (see FIG. 1). A liner (40), which is sized and dimensioned to closely fit against the walls of the container (14), is disposed within the container (14) (see FIG. 1; COL. 4, lines 55-67; COL. 5, lines 1-13). The liner (40) has one or more vertical side walls (54a-d), which terminate in an outwardly directed circumferential horizontal liner flange (56), which is disposed between the circumferential rim of the container (14) and circumferential horizontal lid flange (see FIG. 1; COL. 5, lines 25-35).

It is noted that “very high axial strength” has been interpreted as inherent to the container (14) and lid (24) since “very high axial strength” is a relative characterization of the ability of the elements (14) and (24) to maintain integrity and structure with the application of pressure. Furthermore, “very high axial strength” has been attributed to both the container (14) and lid (24) since they can withstand speeds of rotations approximately between 1000 rpm and 5000 rpm (see COL. 5, lines 18-21).

Kelley et al. do not explicitly disclose container (14) with the first and second transverse axis at least in 9 cm in length. However, Hara discloses a container (15) having at least a diameter of 101 mm or 10.1 cm, depending upon from what walls of the container (15) the diameter is taken (see FIGS. 4-7; COL. 5, lines 59-63). The container (15) has a depth of 100 mm or 10.0 cm (see FIGS. 4-7; COL. 5, lines 59-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the container of Kelley et al. with the first and second transverse axis at least 9 cm as in Hara to provide sufficient room for a larger bottle of sample or larger number of centrifuge tubes while fitting into a conventional centrifuge.

Kelley et al. do not address the strength of the container (14). However, Hara discloses a very high axial strength container (15) made of stainless steel and reinforced with ribs to carry a heavy load while undergoing a high rotational speed (see COL. 5, lines 42-66; COL. 6, lines 1 and 2). Hara does not address the cover; however, it would have been obvious to provide a cover with the same very high axial strength to prevent damage to the cover secured to a container withstanding a high amount of centrifugal force. Therefore, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to make the container and lid of Kelley et al. in view of Hara such that they can withstand a high amount of centrifugal force from the sample and high rotational speed.

Kelley et al. do not disclose a pouring spout with a removable self-sealing pouring spout cover. However, Schmeisser et al. disclose a pouring spout (14) with a self-sealing pouring spout cover (42) (see FIGS. 3 and 4; COL. 1, lines 5-8). Schrenk et al. also disclose a pouring spout (24) with a self-sealing pouring spout cover (24) (see FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the labware of Kelley et al. to include a pouring spout and self-sealing pouring spout cover as in Schmeisser et al. or Schrenk et al. to effectively seal the contents in a centrifuge container from leakage and contamination to or from the environment.

Kelley et al. do not disclose how far the vertical flange is disposed downwardly below the horizontal lid flange. Foster et al. disclose the circumferential vertical lid flange with a length of $j - (e + i) = 4.318 \text{ mm}$ (see FIGS. 1-3 and 5).

$$e = 0.055'' \text{ to } 0.060''$$

$$i = 0.075'' \text{ to } 0.080''$$

$$j = 0.300'' \text{ to } 0.310''$$

$$e + i = 0.130'' \text{ to } 0.140''$$

$$j - (e + i) = 0.170'' \text{ or } 4.318 \text{ mm}$$

The circumferential vertical lid flange is disposed interior to the circumferential horizontal lid flange (see FIG. 5). Therefore, it would have been obvious to one having

Art Unit: 1743

ordinary skill in the art at the time the invention was made to modify the device of Kelley et al. in view of Hara to provide a circumferential vertical lid flange disposed interior to the circumferential horizontal lid flange of at least about 3 mm as in Foster et al. to maintain seal integrity.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They include one or more limitations in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan
Examiner
Art Unit 1743

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February 22, 2003